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(54) Intravascular imaging guide wire apparatus and methods for use and manufacture

(57) A device for ultrasonic imaging, particularly of small coronary vessels, comprises an elongate member (450) with a distal end (452) that can be positioned within a small vessel of a patient's body while a proximal end (458) is located outside the body, a transducer (356) located at a distal end of the elongate member and operable to scan the distal coronary vessels with ultrasonic pulses, and a signal processor connected to a proximal end of the elongate member and to the transducer for generating and receiving pulses to and from the transducer. A motor (620) may also be connected to the proximal end of the elongate member for rotating the transducer.

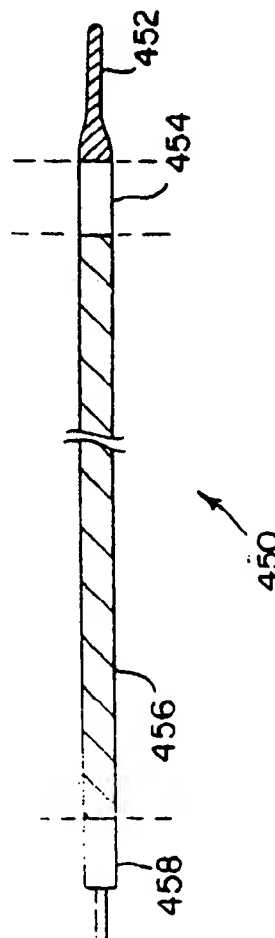


FIG. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 93 30 1240

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 5)
X	WO-A-91 17710 (CARDIOVASCULAR IMAGING SYSTEMS INC.)	1,2,23	A61B8/12 A61B1/04 B06B1/06 A61M25/01
Y	* the whole document *	4,28	
Y	EP-A-0 234 951 (CARDIOVASCULAR IMAGING SYSTEMS INC.) * page 12, line 7 - page 13, line 24; figures 5-9 *	4	
Y	INTERNATIONAL JOURNAL OF CARDIAC IMAGING, vol.4, no.2-4, 1989, DORDRECHT (NE) pages 201 - 216, XP000350858 R.W. MARTIN ET AL. 'Design characteristics for intravascular ultrasonic catheters'	28	
A	* the whole document *	29-37	TECHNICAL FIELDS SEARCHED (Int. Cl. 5) A61B B06B A61M
A	EP-A-0 419 277 (CARDIOMETRICS INC.) * abstract; figures 6-24 *	1-3, 28-37	
A	US-A-4 375 818 (T.SUWAKI ET AL.) * abstract; figures 1-5 *	1,17-20	
A	DE-A-36 19 195 (OLYMPUS OPTICAL CO. LTD.) * abstract; figures 1-3 *	1	
A	WO-A-89 04142 (CIRCULATION RESEARCH LTD.) * abstract; figures 1,11,17 *	1,21	
A	INTERNATIONAL JOURNAL OF CARDIAC IMAGING, vol.4, no.2-4, 1989, DORDRECHT (NE) pages 79 - 88 N.BOM ET AL. 'Early and recent intraluminal ultrasound devices' * the whole document *	1	
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		30 August 1995	HUNT, B
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid.
- namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions.

namely:

See sheet -B-

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respects of which search fees have been paid.
- namely claims:
- ☒ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.

namely claims: 1-37